

Cumulative impacts are the sum of all impacts from implementation of the proposed action—disposal of NAPR—and from other past or reasonably foreseeable future projects in the area. Potentially significant effects can result from the additive or synergistic effects of individually minor actions that affect the same resources over the duration of the proposed action and within the same geographic area. For the purpose of this assessment, the area considered for cumulative impacts is the northeast region of Puerto Rico near NAPR, including the communities of Luquillo, Fajardo, Ceiba, and Naguabo.

As discussed in Section 1.6 of this EA, the impacts associated with reuse of the property through 2013 (i.e., Phases I and II) under the Reuse Plan are considered indirect impacts of the proposed action. These impacts are described in Section 4 at a general level of detail, consistent with the level of detail found in the Reuse Plan. However, the magnitude of redevelopment beyond Phase II (i.e., Phases III and IV build-out to 2038) would be a function of economic factors and other factors that, with the exception of certain Navy-imposed restrictions, would be beyond the control of the Navy. As such, the ultimate redevelopment of the property through Phase IV of the Reuse Plan is considered to be speculative at present; therefore, the proposed reuses defined in Phases III and IV of the Reuse Plan have been evaluated as unforeseeable, cumulative implications of the proposed action.

5.1 Land Use and Transportation

Implementation of Phases III and IV of the Reuse Plan would result in additional land use impacts as areas are developed more intensively. Significant internal or external land use inconsistencies are not anticipated because most of the additional development would comprise expansions or continuation of developments initiated during Phase II of the plan. Furthermore, the PRPB and other Commonwealth and federal agencies would continue to be responsible for reviewing individual development projects to ensure that such projects are consistent with the applicable zoning regulations, thereby minimizing the potential for unforeseeable future land use inconsistencies.

Additional upgrades to the transportation system would be necessary as Phases III and IV of the Reuse Plan are implemented and areas are developed more intensively. Accordingly, the plan proposes the expansion and improvement of 13 roadways on the property during Phases III and IV. However, given that Phases III and IV would be implemented over a 10- to 20-year period and would not be initiated until at least 10 years after transfer of the property, further review and evaluation of the adequacy of the transportation system would be needed as the development plan progresses.

The proposed action of disposal of NAPR to non-federal entities would exclude approximately 230 acres that would be transferred by the Navy to other federal entities (see Section 1.5.2 and Figure 1-3 for details).

Land Transfers to the Department of the Army

The U.S. Army would use 125 acres in the Bundy area for training and administrative support facilities and five acres along the waterfront area. These activities are generally consistent with the former use of these areas by the Navy as well as with the conservation and residential land uses proposed for this zone by the Reuse Plan. Therefore, no significant cumulative impacts associated with this land transfer are anticipated.

Land Transfers to the Department of Homeland Security

The DHS would take ownership of three separate parcels of Navy-owned land at NAPR. The DHS would use one acre adjacent to the fuel pier on the waterfront for a boat storage and operations area and 10 acres, including Hangar 200 and the aircraft parking apron at the airfield. The U.S. Customs Service would use the facilities for air operations

and administrative facilities. PRPA would be responsible for managing civilian air operations and the civilian airfield facilities after transfer of NAPR. PRPA is planning to develop an airfield master plan for future civilian/commercial air operations. It is assumed that the uses proposed by the DHS for the three parcels would be consistent with waterfront uses and the PRPA's airfield master plan. Therefore, no significant cumulative impacts on the surrounding areas would be expected.

The DHS would use 30 acres constituting the former AFWTF Headquarters at South Delicias for administration and communications facilities. These activities are consistent with the undeveloped nature of the surrounding lands. This area is proposed to remain undeveloped through Phase II of the Reuse Plan. Therefore, no significant cumulative impacts on the surrounding areas would be expected.

The 60-acre parcel at Punta Medio Mundo containing the small-arms range would be transferred to the DHS for use as a small-arms training facility. This area is surrounded by lands proposed to be part of the conservation areas, which contain large tracts of mangroves and wetlands natural areas, and its ongoing use as a small-arms range is not entirely consistent with the proposed surrounding land use. During the Navy's use of the small-arms range, access to the surrounding areas was restricted and enforced by the Navy. With reuse, the areas surrounding the small-arms range are proposed to be transferred to a Commonwealth conservation entity. Because of the increased potential for members of the public to be within the conservation zone, use of the small-arms range by the DHS has potential safety implications. The DHS would be required to maintain the established Surface Danger Zone for the range. Furthermore, to minimize these safety issues, it is assumed that the DHS would enter into a Memorandum of Agreement with the Commonwealth conservation entity to effectively limit public access to these areas during operations at the small-arms range. Therefore, no significant cumulative impacts on the surrounding areas would be expected.

5.2 Vegetation

Implementation of the proposed action, disposal of NAPR, combined with past, present, and future actions, could have the potential for an adverse cumulative impact on vegetative communities at NAPR. Redevelopment through Phase IV of the Reuse Plan would result in additional loss or alteration of vegetation in terrestrial communities

throughout the property. While a significant portion of land in areas with wetlands and steep slopes would be avoided, the full build-out of the Reuse Plan would result in additional expansion of the development footprint into previously undeveloped upland areas at NAPR. Furthermore, full build-out would result in additional development up to the boundaries of sensitive freshwater wetland, surface water, tidal wetland, and marine ecosystems. The resulting loss of vegetation could remove protective buffers that are important to the health of these sensitive resources.

However, implementing best management practices during construction and complying with all Puerto Rico Commonwealth permitting regulations could minimize any impacts. Therefore, the resultant loss in vegetation would in and of itself not be expected to have a significant adverse impact on natural resources. It should also be noted that the Reuse Plan would result in the permanent protection of more than 3,000 acres of vegetative communities, including more than 2,100 acres of mangroves, through establishment of conservation areas. Protection of such an extensive area of natural vegetation in perpetuity would be a beneficial impact of the proposed action.

5.3 Air and Noise

Cumulative air quality impacts from the proposed action and other existing and reasonably foreseeable actions are not expected to be significant. The reuse of NAPR through Phase IV, as proposed in the Reuse Plan, would entail a more intensive use of commercial and light industrial facilities than the current land uses and infrastructure at NAPR support. The specific level of air emissions associated with the proposed reuses through Phase IV are speculative and not quantifiable at this time. Each proposed development would be required to adhere to the Commonwealth's permit and development review process.

Other existing air pollutant sources include emissions from ferry operations between Vieques and Fajardo, engine emissions from aircraft using the NAPR, Fajardo, and Vieques airports, and from private watercraft operating near the shore. Emissions and air quality impacts from stationary sources on NAPR that remain in federal ownership would be governed by air quality permits issued to each respective agency by the Puerto Rico EQB.

Proposed construction projects at NAPR, as part of the reuse activities, are not expected to generate air pollutant emissions at levels that would impact the air quality within the disposed land areas. Projects such as these would address any potential significant air quality impacts caused by the project in environmental documentation prepared for each project. The cumulative effect of these actions is not expected to adversely affect the region's designation as an attainment area.

The proposed action would not directly or indirectly generate sufficient noise to have a cumulative effect on the overall noise environment of the NAPR property or nearby areas. Historical noise sources located at NAPR (discussed in Section 3.7) include aircraft operations, watercraft operating near the shore, and past military activities. Because of the geographic expanse (8,442 acres) and varying topography of NAPR, the proposed reuse projects at NAPR are not expected to generate sufficient noise to be noticeable outside the disposed land areas.

5.4 Terrestrial and Marine Environments and Threatened and Endangered Species

Implementation of the proposed action, when combined with past, present, and future actions, would not have a significant impact on the terrestrial environment and on those threatened and endangered species that occur at NAPR. As discussed in Section 1.6, the potential impacts associated with development through Phase II of the Reuse Plan are considered as indirect impacts of the proposed disposal action. Potential impacts from development through Phase IV of the Reuse Plan are discussed below.

It is anticipated the PRPB will adopt a Special Zoning Plan based on the proposed Reuse Plan for the development of NAPR. Included in the zoning plan will be specific conservation measures, presented in Tables 4-4 through 4-7, to be undertaken by future landowners/developers to assure protection of threatened and endangered species and their habitat. A statement, which directs property owners/developers to consult with USFWS if they have questions on, or cannot comply with the conservation measures will be part of the zoning conditions. It will further state that failure to comply could violate Section 9.0 of the ESA and that the USFWS has the authority to prosecute violations under the ESA. As these conservation recommendations will become part of the Special Zoning Plan for the development of NAPR, they will constitute conditions that all future

landowners/developers will be advised of when undergoing the site/development review process required to obtain a building permit. In addition, any changes in operational tempo for USACE-permitted facilities (e.g., marina, boat ramps, and cargo pier) would require a new permit from the USACE no matter where in the phase development these changes occur.

During implementation of Phase I of the Reuse Plan, which is the disposal action, the Navy would include notification of the recommended conservation measures in all bid packages as it relates to the respective parcel. The successful bidder's transfer documents would also include a copy of the applicable recommended conservation measures, as well as notification to the USFWS as to who the successful bidder is. During the subsequent Phases III and IV, developers will become aware of the conservation measures as part of the zoning/building permit process. Implementation of the proposed action could have the potential for an adverse cumulative impact on the marine environment, sea grasses, sea turtles, and the West Indian manatee if proper conservation measures are not undertaken. It is likely that restrictions on use of near-shore waters by private vessels and protective restrictions in the Enseñada Honda marina area have contributed to the conservation of these resources. In addition, use of the waters adjacent to NAPR by the Navy decreased dramatically and ultimately ceased with the closure of training facilities and operations at Vieques and NSRR. However, over time, a greater use of the waters for civilian purposes (e.g., recreation, fishing, education, and research) would occur.

In addition to the conservation measures specific to zoning, there are a number of mitigation measures that Commonwealth and/or Federal resource agencies could/may impose on these non-federal owners/developers prior to them being issued development-specific approvals or permits. Implementation of these mitigation requirements would be the responsibility of the new owner/developer and the respective issuing agency would be responsible for assuring mitigation measures are instituted.

Following is a list of potential mitigation measures that could be implemented to minimize any potential impacts to threatened and endangered species or their habitat as a result of future development:

- Prevent nutrient run-off through the use of sedimentation barriers during ground clearing and other construction activities;

- Create a clearly marked and buoyed (mandatory) channel for the approach to the ferry terminal(s) and other marine activities;
- Create specific locations where boats may/may not be anchored;
- Establish maintenance and usage restrictions for mooring areas;
- Enforce vessel speed limits through established ‘make no wake’ zones and other such restrictions;
- For construction activities within the coastal zone, establish appropriate set backs and enforce lighting restrictions as they relate to sea turtles and nesting beaches;
- Assist future property owners in pursuing establishing conservation easement to facilitate their receiving tax deductions and/or property tax exemptions; and
- Local municipalities or Commonwealth agencies establish animal pest management programs to help manage feral cats and dogs, as well as the introduced mongoose.

Provided that future owners/developers develop and follow mitigation measures for reuse activities that have the potential for adverse impacts on marine resources, sea grasses, sea turtles, the proposed reuse through Phase IV (if it occurs as proposed) would not be expected to result in significant adverse cumulative impacts.

5.5 Socioeconomics

This EA provides an assessment of the potential positive and negative socio-economic effects on the environment and population around the NAPR property. Because of the nature of the project and the disposal of land to civilian ownership, most long-term impacts are expected to be positive for the local population. There would be positive economic benefits for the business and private sector of the surrounding communities because of the expansion of services and the construction dollars and growth that would be introduced to the economy. One aspect will be the addition of housing units on NAPR that would be available for private residences. Although the current residential market in the Fajardo/Ceiba Region is depressed, it is anticipated that, based upon historical absorption rates in the area and the future population growth, the additional residential housing will be a positive benefit for the community. In addition, tourism, especially the expan-

sion of ecotourism, would be expected with the proposed expansion of conservation areas. The negative aspects of this land transfer would be limited to minor increases in population, development, and traffic.

5.6 Environmental Contamination

The proposed action would have a beneficial effect on environmental contamination through the cleanup of existing contamination. The cleanup of environmental contamination would have indirect, short-term, land use impacts (see Section 4.2). The duration and extent of the remedial process at each site is dependent on the outcome of the current ECP (U.S. Navy July 15, 2005) investigations and future work (remedial investigations/feasibility studies, remedial designs, and remedial actions). Site-access controls (e.g., fencing) would be evaluated early in this process. Some contaminated parcels will require mechanized land clearing, excavations, backfilling, and re-grading to complete investigations and cleanups, resulting in indirect, short-term impacts. These impacts can be minimized through the use of best management practices to control erosion, sedimentation, and noise related to cleanup and by appropriate restoration upon completion of cleanups.

5.7 Cultural Resources

Potential adverse cumulative impacts on cultural and historic resources are not expected to be significant. Potentially eligible sites that remain outside of the proposed conservation zones would be exposed to the threat of natural or manmade disturbances (including looting) that would adversely affect the integrity or research potential of the sites. Without monitoring and possible intervention or mitigation, erosion or neglect could affect the integrity of the features or deposits. Over time and in the absence of federal oversight, sites also could continue to be destroyed through development, landscape modification, looting, or uncontrolled excavation. However, inclusion of these sites in the expanded conservation zones would minimize or mitigate these potential impacts such that the cumulative effect would not be significant.